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NATIONAL HEALTH INSURANCE BY REGULATION: MANDATED EMPLOYEE BENE--ETC(U)
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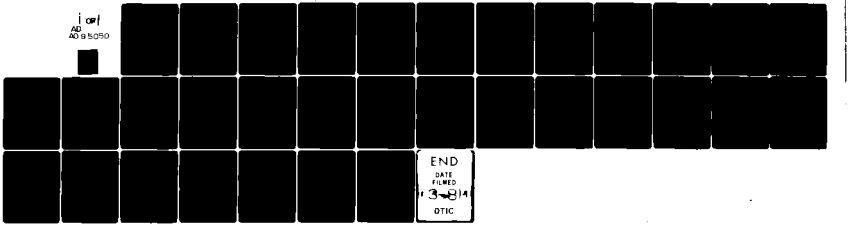

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10 Charles E. Phelps

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The Rand Corporation
Santa Monica, California 90406

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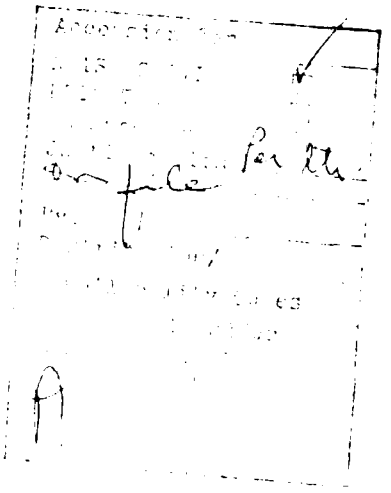

NATIONAL HEALTH INSURANCE BY REGULATION: MANDATED EMPLOYEE BENEFITS[1]

I. INTRODUCTION

Social issues have often been solved, at least in part, by requiring that certain activities be undertaken by businesses on behalf of their employees. The entire social security system, workmen's compensation plans, and affirmative action for hiring of minorities are cases in point. The concept of using mandating as a portion of a national health insurance (NHI) plan arose during the Nixon administration and has been periodically (though not necessarily currently) embraced by such diverse entities as the administrations of Presidents Nixon and Carter, the U.S. Chamber of Commerce, and prominent members of Congress of a variety of political persuasions from both major political parties.

The broad political appeal for using mandated insurance appears to arise from several roots. First, it is "off budget." That is, a national health insurance plan can be structured without giving the appearance of affecting federal spending. Second, it gains the political support of a potentially powerful interest group: Because it retains an active role for the private insurance industry, it retains a market-oriented structure generally appealing to those desiring to minimize the appearance of government intervention. Finally, because the mandating provides a "floor" on coverage for the employed and their families, it is easy for persons who desire more insurance than the floor to fulfill their desires--the private employer package is substantially more flexible than a single government plan. Indeed, many employers now offer a variety of insurance packages to employees,

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[1]This paper was presented at the Conference on "National Health Insurance: What Now, What Later, What Never?" sponsored by the American Enterprise Institute on October 5, 1979. The research on which the paper was based was supported by the Health Insurance Study of The Rand Corporation under a grant from the Department of Health, Education and Welfare. The opinions and conclusions reached are solely those of the author and do not necessarily reflect the opinions or policies of any sponsors of Rand Corporation research.

reflecting the ease with which variety in insurance coverage can be sustained.

While desirable aspects of mandating insurance do indeed exist, one cannot conclude that the technique is without problems. The central theme of this paper is that many of the apparently desirable features of mandated insurance possess intrinsic liabilities as well. We have not yet found the proverbial free lunch. Some of these problems are correctible, if dealt with, but some appear to be inescapable. On net, it still appears plausible to me that, if national health insurance is to be enacted, mandated insurance for employees and their families may be the most desirable way to finance and operate such a plan.

CENTRAL ISSUES

The central issues of mandated insurance are relatively simple: First, the belief that mandating health coverage does not affect the federal budget is false. Because employer payments towards health insurance are tax deductible as a business expense by employers, but are not counted as taxable income by the IRS against employees, there is invariably an effect on tax revenues, and hence the federal budget, when mandating is used. Under the hypothesis that premium payments are (at least in the long run) offset by reductions in wage payments (which would be taxable), federal tax receipts would fall by billions of dollars annually under most mandated plans. In some plausible cases, the loss in tax receipts can be one-quarter to one-half of the size of direct outlays for complementary parts of NHI packages.[1]

Second, use of private insurance carriers for a significant part of the NHI plan makes more difficult any insurance-based efforts to control costs of care through provider incentives or payment mechanisms because of the diverse source of payment and the lack of coordination

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[1]Bridger M. Mitchell and Charles E. Phelps, *Employer-Paid Group Health Insurance and the Costs of Mandated National Coverage*, The Rand Corporation, R-1509-HEW, Santa Monica, California, September 1975; also in abbreviated form, "National Health Insurance: Some Costs and Effects of Mandated Employee Coverage," *Journal of Political Economy*, Vol. 84, No. 3, June 1976, pp. 553-71.

of information about such things as fee schedules, double billing, et cetera. However, the technique of mandating still leaves open prospects for innovative private financing schemes and alternative delivery of care systems, such as HMOs, independent practice organizations, or novel approaches providing both consumer and provider incentives for cost control.[1] However, those favoring a centrally administered NHI plan to provide the most favorable opportunity for centralized cost control find mandating a dissatisfying approach. Because I do not number myself among such groups, I do not generally view with alarm the prospect of having a large and diverse set of carriers for an NHI plan.

Third, one must consider the effects of the mandated plan on the firms involved. The economic effects of mandating national health insurance through employers are driven in a large part by the size distribution of firms in the U.S. As a general statement, most large firms will be only trivially affected by a mandated NHI plan, unless it is considerably towards the extreme of general NHI proposals of today. Nearly every large firm has some sort of employee health insurance plan, and many already have existing employer contributions at or near the generally considered mandated levels. On the other hand, relatively few of the small firms in the country have such plans, so mandating not only requires new direct (marginal) labor costs, but also requires a possibly large fixed cost associated with acquiring and managing a health insurance plan for only a few employees. Table 1 portrays the size distribution of firms and employees in the United States. It is striking that the smallest firms (under 20 employees) account for less than one-quarter of the nation's employees, yet constitute seven-eighths of the firms in the country. At the other extreme, firms with 100+ employees account for over half of all U.S. employees, yet are just over 2 percent of the number of firms.

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[1]Many of these approaches are discussed in Alain C. Enthoven, "Consumer-Choice Health Plan," *New England Journal of Medicine*, Vol. 298, Nos. 12 and 13 (March 23 and 30, 1978), pp. 650-58.

Table 1

SIZE DISTRIBUTION OF U.S. FIRMS

Firm Size (number of employees)	% of All Employees[a]	% of All Firms
1-3	5.4	50.1
4-7	6.5	20.5
8-19	12.4	16.8
Subtotal	24.3	
20-49	14.4	7.7
50-99	10.8	2.6
Subtotal	25.2	
100-249	13.6	1.5
250-499	10.0	0.5
500 or more	26.9	0.3
Subtotal	50.5	

SOURCE: U.S. Department of Commerce, *County Business Patterns*, Covernment Printing Office, Washington, D.C., 1971.

[a]57,265,292 employees, 1970.

PATTERN OF INSURANCE ACROSS FIRM SIZE

There are sound economic reasons for the existing pattern of insurance across firm size. First, the smaller groups are (because of the law of large numbers) riskier to the insurer, so there is a higher price charged for a given package of insurance than for larger firms. Small firms also present the possibility of true "adverse selection" due to asymmetric information between the insurer and the insured group. For example, a small employee group may opt for complete coverage if it is believed that a member of the group has contracted cancer. The benefits versus costs of such an action are considerably different in a small group than in a large group.

There are also substantial fixed costs of transaction and management of the plan for each firm, making it a less attractive form of compensation for small firms. Finally, I suspect that there is considerably higher turnover in small than large firms (although

I do not have data to support this belief). If true, this further adds to the costs of administration of any health plan.

Mandating of NHI solves only a few of these problems for the small firm. Because every employee (indeed, every person) in the country will have some form of insurance, insurers will be able to substantially ignore problems of differential information between insureds and insurer.[1] Any problem of turnover and high fixed costs will only partly be mitigated through a mandated plan. Each new employee requires re-registration for eligibility of the employee with the insurer, requiring both employer time and insurer time to modify eligibility records. Completion of the cycle also requires decertification of the employee at the former place of employment. All of these could contribute to the higher cost, and hence lower prevalence of health insurance as a form of compensation in small firms, and all will remain with mandated plans. The ultimate effect of mandating employer plans as a part of NHI may not be so much on employment itself, but rather on the size distribution of firms. Without special compensation, it seems possible that the optimum size of the firm may increase with mandated NHI. The mandating method has an effect comparable to requiring a fixed cost license for doing business for every firm in the country, independent of size. (This is not to say that most of the costs of a health plan are fixed, but rather that there are nontrivial fixed costs associated with any plan.)

Finally, one must consider how the increased costs of labor implied by mandated national health insurance will be dealt with by the firms, at least in the short run. In concept, mandating health insurance plans is akin to requiring a minimum level of employee compensation in addition to wage payments. Theory of the firm suggests that the equilibrium wage payment (in total) will be set to

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[1] Some adverse selection problems will still exist. One insurance company has reported to me that a small group of psychotherapists acquired an insurance plan which included coverage for psychotherapy. A considerable fraction of the firm's business was then spent with the therapists treating one another, while billing their newly found health insurance plan for the services.

the marginal revenue product of the employee, regardless of the composition of the wage payment. Thus in general, increased mandated insurance coverage should lead to reduction in wages where the mandating has increased the amount of insurance provided. In a long-run general equilibrium context, it is possible that some of the incidence of the higher cost falls on capital, rather than labor, but empirical estimates show this amount to be very small,[1] as might be expected if the elasticity of supply of capital is large.[2]

In the short run, however, the incidence may be somewhat different. With capital immobile in the short run, part of the incidence may fall on capital, and part may fall on customers of the affected firms, *if wages are sticky downward* but prices are immediately flexible. Simple considerations suggest that the period of adjustment for wages is likely to be short--probably less than half a year.[3] With such a short period of adjustment, massive revision of pricing practices by firms seems unlikely, and there seems to be even less likelihood that relative demand between industries would change markedly in response to any product price changes that occur.

Several features of the problem lead to this conclusion. First, the change in wages required by a mandated plan is not likely to be large (proportional to wages) in many firms. An increase in premiums of, say, $500 per worker is at maximum for most firms an increase of

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[1]Martin S. Feldstein, "The Incidence of the Social Security Payroll Tax: Comment," *American Economic Review*, Vol. 62, No. 3, September 1972, pp. 735-38.

[2]Kip Viscusi has pointed out in his discussion of this paper that there may be a permanent effect on demand for some labor. There is an important exception. For those workers near or at the legal minimum wage, there will be no possibility of shifting back the costs of the health insurance premium to the worker. Thus, in effect, mandated NHI has the effect of placing a lump-sum tax on the annual employment of such workers, relative to more highly skilled workers. For such workers, there could be a permanent decline in demand for labor, and hence a permanent decline in the levels of employment. So long as health care costs increase at least as rapidly as the legal minimum wage, this phenomenon would not be reversed through any inflationary pressures.

[3]Mitchell and Phelps, *Employer-Paid Group Health Insurance*.

under 5 percent in wage payments. One of the few side benefits of a 12-15 percent inflation rate may be that it minimizes any adjustment problem associated with such things as mandated NHI. Freezing nominal wages for an added four to six months beyond customary practice should return real wages to equilibrium, even after the shock of mandated NHI.[1]

Second, the firms with the largest increases in premiums from mandated NHI are likely to be (a) small, and (b) nonunionized. If turnover is largest in such firms (which, I have argued, is one of the reasons for lower levels of insurance coverage currently), then that turnover itself will facilitate rapid adjustment of the real wage to equilibrium levels. Firms with collective bargaining agreements will find it more difficult to make nominal downward adjustments, but they are also much more likely already to have significant health plans, and thus would be little affected by the mandated plan.

Taken together, these considerations make me believe that the adjustment proposed in Mitchell and Phelps's *Employer-Paid Group Health Insurance and the Costs of Mandated National Coverage* is the one that would predominate--firms would in the short run substitute overtime work for added workers, allowing natural turnover rates to adjust the magnitude of the labor force as desired. That, coupled with significant rates of inflation in the economy, lead to the belief that equilibrium can be obtained within six months to a year with considerable certainty.

PREVIOUS PUBLISHED RESEARCH

The pertinent published research on mandated national health insurance is small. While a variety of federal studies have been published which include estimates of the employer costs of mandated NHI, virtually none has made its methodology open for critique, nor are those studies amenable to simple adjustment from one time period to another, or yet adjustable to account for new data superseding preliminary data and assumptions employed by the researchers.

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[1] Labor contracts with built-in inflation adjustment will not provide this self-correcting feature.

One 1975 study,[1] of which I was coauthor, contains a methodology with which I am sufficiently familiar to make adjustment as required to forecast 1980 effects of mandated NHI. That study made several key assumptions about events which had (nearly) transpired at the time it was published, but for which no data were available. Some of those assumptions have retrospectively turned out to be significantly in error. In this paper, I will modify the work presented in the earlier paper and present tentative conclusions regarding the current effects of NHI mandated through employee benefit plans.

EFFECTS OF MANDATED NHI

Any attempts to forecast with fine precision the current effects of mandated NHI are dangerous. To identify the effects of mandated NHI in great detail requires a set of data not commonly available. Mitchell and Phelps employed a survey conducted in 1970 by the Center for Health Administration Studies (CHAS) of the University of Chicago, which contained the minimum data required to conduct such an analysis carefully. While new data are being collected currently by the National Center for Health Services Research of the Department of Health, Education, and Welfare, they are not currently available, so forecasting mandated NHI in 1980 requires extrapolation of a data set a decade old. Finally, the reader should be aware that the updating used in this paper is as yet tentative. I have not actually performed a resimulation of the effects of mandated NHI, but rather I use aggregate data to rescale results from the previous simulation using 1970 survey data. Such a resimulation would not be likely to produce answers differing in serious magnitude from the more crude adjustments of Mitchell and Phelps's results which I made in this paper. The most prominent problem of any such study is the enforced reliance on a data base ten years out of date, in a period when employer insurance premiums have tripled in nominal value.

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[1] Mitchell and Phelps, *Employer-Paid Group Health Insurance*.

II. CAPSULE SUMMARY OF MITCHELL AND PHELPS'S METHODOLOGY AND RESULTS

The 1970 survey employed by Mitchell and Phelps provided a stratified random sample of households in the United States in that year. Among other things, the survey gathered data from families on each health insurance plan held by them and then obtained directly from the insurer or employer data on the total cost of the plan, the employer's share, the employee's share, and the extent of coverage of the plan (both in terms of services covered and in terms of the family members covered). These data, when scaled to 1975 levels through use of aggregate data ratios, provided the basis for our past simulation. (Premium contributions were scaled upward by the ratio of estimated 1975 aggregate premiums to known 1970 premiums. Labor force increases were projected from contemporaneous rates of labor force increases.) For the key simulation, Mitchell and Phelps compared the (estimated) 1975 premium contribution of the employer of each worker in the 1970 sample against a variety of mandated standards under consideration. The added premium costs (above estimated 1975 contributions) were added across the sample and rescaled to match the national population projected for 1975. From these data, estimates can be made for virtually any proposed mandated NHI plan in terms of cost, potential unemployment effects generated (by industry), and increased losses of federal tax receipts (when combined with knowledge of family income and externally estimated marginal tax rates for each family).

In brief summary, Mitchell and Phelps estimated new employer premium costs in 1975 ranging from $5 billion per year for a "low level" proposed mandated NHI plan through $9 billion for a plan approximating that of the Nixon administration to over $21 billion for the most generous plan under consideration at that time involving mandated NHI. The increased premiums per worker were found to vary by a factor of two across industries, the lowest being in manufacturing and retail trade, and the highest being in agriculture, mining, service, finance, real estate, and the construction industries, i.e.,

industries typically dominated by smaller firms. Relying on estimates by Ehrenberg,[1] we forecast transitory increases in unemployment ranging from 0.3 percent for the "low level" plan to 1.4 percent for the most generous plan. Again, effects varied across industry, by a factor of three or more, with the largest effects being predicted for the service industry (up to 2.1 percent unemployment for the most generous plan) and lowest in the manufacturing sector, as might be expected. It was shown that these unemployment effects could be substantially mitigated through temporary subsidies to employers to offset payroll increases, but that subsidies sufficient to be effective at minimizing employment loss would range, in some cases, into multiple billions of dollars. Finally, when premium data were combined with family income and estimated marginal tax rate data, an estimate was obtained of the loss in federal tax receipts associated with the mandating. This calculation was based upon the assumption that the long-run incidence of the mandated premium cost is on the worker and that employer-paid premiums would continue not to be counted as taxable income for employees. The "low level" plan had tax expenditures of over $1 billion; the intermediate plan had tax expenditures of $2.5 billion, and the "high level" plan had tax expenditures of $6 billion annually.

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[1]Ronald G. Ehrenberg, *Fringe Benefits and Overtime Behavior*, Lexington Books, Lexington, Massachusetts, 1971.

III. EMPLOYER PREMIUMS AND CONTRIBUTIONS

ACTUAL 1975 PREMIUMS, 1978 PREMIUMS, AND FORECASTS OF 1980 PREMIUMS

There has been a veritable explosion in employer-plan health insurance benefits and premiums in the past decade. In 1970, such plans had $13.65 billion in premiums, $9.1 billion of which was paid by employers (67 percent). Mitchell and Phelps extrapolated these data to 1975 and predicted total premiums of $22 billion, $14.6 billion of which would be paid by employers (a 60 percent increase above 1970). Actual data now available show the increase in total premiums to have been substantially larger. Data from Gibson[1] show total health insurance benefits in 1975 of $30.9 billion, corresponding to about $34 billion in premiums. If 1970 ratios hold in 1975, some 80 percent of those premiums, or $27 billion, would be employer-group related. A similar methodology provides an estimate of $36 billion for 1975, and extrapolation of contemporaneous growth rates provides a crude forecast of $47 billion for total employer-group premiums in 1980.

CHANGES IN EMPLOYER CONTRIBUTIONS AND EMPLOYER SHARE OF PREMIUMS

No direct data are available to ascertain the magnitude of employer contributions, although the *Survey of Current Business* (*SCB*) provides data that indicate employer contributions for health *plus* disability premiums.[2] The 1970 survey used in Mitchell and Phelps's *Employer-Paid Group Health Insurance and the Costs of Mandated National Coverage* revealed an average employer share of 67 percent, with 41 percent of the observed policies receiving 100 percent payment

[1] Robert M. Gibson, "National Health Expenditures, 1978," *Health Care Financing Review*, Vol. 1, Summer 1979, pp. 1-36.

[2] Direct inquiry at the *SCB* could not clarify the exact content of the data, but simple calculations demonstrate that the reported levels are inconsistent with the belief that only health premiums are directly reported in the category described as "group health insurance." Adjustment for apparent premiums on disability insurance makes these data consistent with direct measures of employer contributions towards pure health insurance.

by the employer. One can [illegible] the growth patterns in employers' share so long as the fraction of all full-time employees covered by some insurance is known. The most recent data available allow such a calculation directly for 1975. By comparing the growth rate in per-employee contributions by employers against the growth rate in per-capita health care benefits, one can infer the proportion paid by employers. Extrapolations must be employed for later years. The steps required to make this inference are (1) compute the growth rate in premiums per employee in the economy; (2) adjust for the growth rate (if any) in the proportion of employees in the economy with some health coverage through employer work groups; (3) adjust for any changes in per-capita insurance benefit payments (preferably per-enrollee benefits payments in employer-group plans, but such data are not available). This is equivalent to adjusting for premiums if loading fees are constant during the period; use of benefit data allows more use of actual data, rather than extrapolation, for periods past 1976. The logic is that any differential growth rates in employer contributions beyond growth rates in overall premiums (benefits) must be accounted for by changes in the proportion paid by employers.[1]

In 1975, the data suggest that employers' share of existing premiums had increased to 72 percent, rather than the 67 percent observed directly in 1970.[2]

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[1]The 1975 data required for this are found in Martha Remy Yohalem, "Employee-Benefit Plans, 1975," *Social Security Bulletin*, Vol. 40, No. 11, November 1977, pp. 19-28 (for proportion of workers covered); U.S. Department of Commerce, *Survey of Current Business*, July issues of 1973 through 1979, Tables 6.13 (for employer contribution levels); and Gibson, "National Health Expenditures," pp. 1-36 (for aggregate health insurance benefit payments).

[2]During this period, the fraction of all workers covered by some form of employment-group related insurance was stable at 70 percent until 1975, when it increased to 72.2 percent (see Yohalem, "Employee-Benefit Plans," pp. 19-28); employer contributions increased by 119 percent (Department of Commerce, *Survey of Current Business*); the labor force increased by 5 percent (U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, published monthly); and per-capita benefits increased by 96 percent (Gibson, "National Health Expenditures," pp. 1-36).

Projections of employer payment proportions to 1978 and beyond require assumptions regarding any changes in the fraction of workers covered by health insurance. As noted, the data show a remarkable stability in this fraction from 1970 to 1974, hovering near 70 percent. In 1975, that proportion jumped to 72.2 percent, a 3 percent growth rate in one year. Is this a new equilibrium level (responding, say, to the tax reform act of 1975), the beginning of a new growth pattern not yet in equilibrium, or a mere aberration from a long-term equilibrium near 70 percent? Inferences about proportions of premiums paid by employers are sensitive to assumptions made about this number, as will be demonstrated momentarily. Several things suggest that it is probably a permanent, if not complete move. First, the *number* of workers covered by health insurance through employment groups actually increased by 1 percent in 1975, despite a decline in aggregate employment of wage and salary workers by 2 percent. Those laid off were almost certainly overrepresented among those workers with no insurance, so a part of the increase in the rate of coverage was due to decline in the base work force, and a part was due to increases in numbers covered. Second, the data contain a correction factor for multiple coverage obtained from a 1972 survey. That survey, drawn during a period of relative economic growth, will show a relatively high fraction of multiple-worker households, and hence will provide a relatively large downward correction from total number of insureds to obtain coverage levels. (The correction is to avoid double counting of persons covered not only by their own work group policy but by a spouse's.) Multiple coverage almost certainly declines during a recession, so that the 1972 figure will overstate the desirable downward correction in coverage. Thus I am prone to accept the 72 percent coverage level as a useful datum, until direct measures are published. Extrapolation to 1978, 1980, or beyond is obviously risky. Reentry of marginal workers back into the ranks of the employed during a recovery will slightly lower the overall ratio, but general income growth should have an opposing effect. My best guess, and it is nothing more, is to use a coverage rate of 72 percent for the years through 1980.

We are now in a position to estimate the fraction of all premiums paid by employers during 1978 and to make a forecast for 1980. From 1975 to 1978, per-employee contributions towards health insurance premiums by employers rose by 60 percent.[1] Per-capita health insurance benefits rose by 43 percent.[2] If the assumption about a 72 percent worker coverage rate is correct, this implies an astonishing increase in employer share of 12 percent during this three-year period (1.60/1.43 = 1.12). The estimated average employer's share for 1978 is therefore estimated to be .72 x 1.12 = 80.6 percent.

Is such a dramatic increase in a three-year period believable? I offer tentative evidence to support my belief that it is. First, general inflation, pushing (particularly) higher-wage workers into higher marginal tax brackets, offers incentives to increase employer payments in lieu of wage increases. Increases in the Social Security maximum taxable income provide the same incentives for workers with incomes near the current maximum. Second, direct measures of the proportions of workers receiving 100 percent payment by employers shows that measure to have increased from 41 percent in 1970[3] to 57 percent in 1977.[4] We can infer that the distribution of employer share has shifted markedly towards full-payment by employers from the 1970 distribution (see Table 4 below). These, coupled with the lack of persuasive evidence the the proportion of workers covered by some sort of insurance has increased markedly during this period, lead me to acceptance, at least tentatively, of the 80.6 percent employer's share.

The cumulative effects of growths in various factors are summarized in Table 2. The premium increases per se are totally explained by changes in labor force levels and by changes in medical expenses per person, *if* changes in medical prices have little effect on proportions of medical bills covered by insurance. Econometric

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[1] Department of Commerce, *Survey of Current Business*, various issues.

[2] Gibson, "National Health Expenditures," pp. 1-36.

[3] Mitchell and Phelps, *Employer-Paid Group Health Insurance*.

[4] Health Insurance Institute, *Source Book of Health Insurance Data 1977-78*, New York, 1978.

Table 2

GROWTH OF FACTORS IN EMPLOYER-GROUP PREMIUM INCREASES, 1970-1978

Factor	Employer-Group Premiums (1978 : 1970 levels)	Employer Contributions (1978 : 1970 levels)
Premiums	2.71 (?)	3.7?[a]
Labor force (full-time)	1.12	1.12
Proportion of workers covered	1.03 (?)	1.03 (?)
Per-capita medical expense	2.40	2.40
Benefits per person	2.80	2.80
Employer's share of premiums	--	1.20 (?)

SOURCES: Robert M. Gibson, "National Health Expenditures, 1978," *Health Care Financing Review*, Summer 1979, for medical expense data; Martha Remy Yohalem, "Employee-Benefit Plans, 1975," *Social Security Bulletin*, November 1977, for worker coverage data; U.S. Department of Commerce, *Survey of Current Business*, various issues, for employer contributions. Calculations by author.

[a]Excludes growth of $2 billion in employer contributions in dental insurance, estimated from benefit data.

analysis of demand for insurance as a function of medical prices shows no persistent effects,[1] suggesting this to be a relatively benign inference.

The growth in employer contributions is accounted for by labor force growth of 12 percent, increases in the fraction of workers covered of 3 percent (?), and an apparent 20 percent increase in the employer's share of premiums, from a rate of 0.67 to a rate of 0.81. (Notice also that these data are slightly inconsistent in the following way. I calculated the increase in total premiums for employer

[1]Charles E. Phelps, "Demand for Reimbursement Insurance," in Richard N. Rosett, ed., *The Role of Health Insurance in the Health Services Sector*, Universities-National Bureau Conference Series No. 27, National Bureau of Economic Research, New York, 1976.

work groups by assuming that a constant fraction (80 percent) of all private health insurance derived from work groups. But this is inconsistent with the datum that rates of coverage were growing in the employment sector faster than the population was growing, which in fact was true. Thus I have not attempted to calculate the implicit employer's share of premiums directly from my estimate of total premiums for employer work groups, which derives entirely from aggregate benefit data.)

Finally, Table 3 summarizes what my best estimates of employer contributions and employer share might be in 1975, 1978, and roughly extrapolated, 1980. For 1975, 1978, and 1980, the entries associated with the highest proportions of premiums paid by employers are those in which I hold the highest confidence, but the reader should again be reminded of the substantial level of assumption required to reach these estimates.

Table 3

EMPLOYER GROUP INSURANCE PREMIUMS FOR HOSPITAL, PHYSICIAN INSURANCE

Year	Total Premiums (billions)	Employer's Share	Employer-Paid Premiums (billions)
1970	$13.65	0.67	$ 9.1
1975 (estimate by Mitchell/Phelps)	21.80	0.67	14.6
1975 (recent data)	27.00	0.67[a]	18.1[a]
		0.72[b]	19.4[b]
1978	36.00	0.67[a]	24.0[a]
		0.72[b]	26.0[b]
		0.81[c]	29.0[c]
1980 (projected)	47.00	0.67[a]	31.0[a]
		0.72[b]	34.0[b]
		0.81[c] (?)	38.0[c]

SOURCES: Yohalem, "Employee-Benefit Plans, 1975," *Social Security Bulletin*, Vol. 40, No. 11, November 1977, and *Survey of Current Business*, various issues. Calculations by author.

[a] Assumes that 1970 employer's share of 67 percent remains constant.

[b] Assumes employer's share increased at same rate aggregate as per-worker employer contributions to health and disability insurance from 1972 to 1975, scaled by per-capita benefit increase rates.

[c] Same as note (b), except growth to 1978 included. For 1980, assumes same rate as 1978.

IV. REVISION OF 1975 ESTIMATES BY MITCHELL AND PHELPS

We have now reached a position where we can provide some level of correction to the estimates by Mitchell and Phelps regarding required premiums for 1975 mandated insurance.[1] The important question to be answered here is, "What portion of the added premiums (beyond those considered by Mitchell and Phelps) will actually reduce employers' liability for new premiums if an NHI of certain cost characteristics is mandated?" In our forecasts of 1975 employer premiums, it now appears that we ignored some $4.8 billion in employer premium payments. Some of these contributions merely extended upward the fraction paid by the employer (for example, from 85 percent of the premium to 100 percent of the premium). Such premiums will offset liability of mandated NHI which requires only a 75 percent sharing by employers. Alternatively, some of the $4.8 billion increase must be attributed to payments for newly enrolled workers, much or all of which does reduce employer's liability under an NHI plan. Intermediate cases can readily be conceived as well. For lack of any other alternative, I have arbitrarily used the 1970 distribution of employer share to settle the issue: I will "allow" these added contributions to reduce employer liability by the same fraction as was the 1970 proportion of employers with contributions *below* a given mandated rate of sharing. Pertinent data are presented in Table 4; a clarifying example follows. I will also divide the added $4.8 billion in 1975 employer contributions between individual and family unit policies proportional to their 1970 ratios of individuals and families (20 percent for individual policies, 80 percent for family policies).

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[1] Since 1975 has departed us, this exercise may best be viewed as an attempt to improve, if not set straight, the record. More interestingly, the methodology employed is identical to that which I shall use to forecast effects and costs of mandated NHI for 1980; hence, it can be viewed as a learning exercise by the reader, if nothing else.

Bridger Mitchell has not reviewed this effort. Thus he should be held completely blameless for errors, while still receiving credit for his share of whatever merit the original work possesses.

Table 4

DISTRIBUTION OF EMPLOYER PREMIUM SHARE IN 1970

Employer Share (% of Premium)	Individual Policies (% of Total)	Family Policies (% of total)
0	9	12
1-25	4	8
26-50	15	21
51-75	12	13
76-99	8	10
100	52	37

SOURCE: Bridger M. Mitchell and Charles E. Phelps, *Employer-Paid Group Health Insurance and the Costs of Mandated National Coverage*, The Rand Corporation, R-1509-HEW, Santa Monica, California, September 1975, Table 3, p. 6.

Note: Totals may not add to 100% due to rounding.

This fixed amount of added premiums will be assumed to reduce the liability stated in tables in Mitchell and Phelps's report.[1] For example, those results show a liability of $1.11 billion in 1975 for individual insurance policies, if the employer is required to pay at least 50 percent of the premium. The method of allocating the $4.8 billion in added payments (above those in Mitchell and Phelps) is to presume that 20 percent of the $4.8 billion (= $0.96 billion) is potentially available to reduce the liability on individual policies. Since 72 percent of "individual" workers already receive at least a 50 percent contribution on individual policies, I allow only the remaining 28 percent as a reduction of employer liability estimates. Thus the entry in the revised table would be $1.11 - ($4.8 x 0.20 x 0.28) = $1.11 - 0.27 = $0.84 billion. For a plan with this specific requirement, the estimated employer liability is reduced by 24 percent (0.84/1.11 = .76). This same fixed reduction in liability of $0.27 billion occurs for all entries in the 50 percent employer share column, for calculation of the liability for individual policies. An entirely analogous calculation is made for family

[1] Mitchell and Phelps, *Employer-Paid Group Health Insurance*, ...

policies, and for required sharing rates of 75 percent as well as 50 percent by the employer. Tables 5 and 6 provide the revised estimates for individual and family policies.

In Mitchell and Phelps,[1] three prototype plans, dubbed "low," "intermediate," and "high" mandated plans (taken from the range of proposals put forth in the Congress then), had estimated premium increases of $4.88 billion, $10.7 billion, and $18.19 billion respectively.[2] Using the revised tables, these same bills would cost $3.07 billion (63 percent of the original estimate), for the low plan; $8.3 billion (78 percent of the original estimate) for the intermediate plan; and $18.83 billion (87 percent of the original estimate) for the high plan.

While these estimates are diminished somewhat, the required premiums now estimated for the 1975 mandated NHI plans are still of considerable importance and would still have the noted adverse effects on the economy noted in the original estimates.

Because the estimated unemployment effects from mandated NHI are linearly related to the implied new premiums, the revised estimates of temporary unemployment are simply the scaled down estimates of the original ones. The low plan was estimated to have a 0.3 percentage point increase in the unemployment rate. I would now revise that estimate to 63 percent of that, or a 0.2 percentage point increase in unemployment. For the intermediate plan, the estimated unemployment rate increase was 0.6 percentage points; an estimate of 0.5 percent is now implied. For the high plan, the original unemployment effect estimate was 1.4 percentage points; the revised estimate remains high at 1.2 percentage points. These estimates are all made on the assumption of no offsetting payments to employers. In our original estimates, we calculated the offsetting effects of various subsidies, but the methodology I am employing here is not well suited to undertake such estimates.

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[1] Mitchell and Phelps, *Employer-Paid Group Health Insurance*.

[2] The $10.7 billion figure is for the long-run 75 percent employer's share, rather than the initial 65 percent share planned for the first three years of the program.

Table 5

REVISED ESTIMATED INCREASES IN 1975 EMPLOYER PREMIUM PAYMENTS FOR MANDATED NHI PROPOSALS--INDIVIDUAL POLICIES

Total Premium Per Individual Policy	50% of Total Premium from Employer		75% of Total Premium from Employer	
	Level (billions)	% of Original Estimate	Level (billions)	% of Original Estimate
$200	$ .84	76	$1.37	78
220	.96	78	1.57	81
240	1.09	80	1.78	82
260	1.21	82	2.00	84
280	1.34	83	2.22	85
300	1.48	84	2.45	87
320	1.61	85	2.68	88
340	1.75	86	2.91	88
360	1.89	87	3.15	89
380	2.04	88	3.40	90
400	2.18	89	3.64	91

NOTE: Revision of estimates by Mitchell and Phelps. For method of calculating entries in table, see text.

Table 6

REVISED ESTIMATED INCREASES IN 1975 EMPLOYER PREMIUM PAYMENTS FOR MANDATED NHI PROPOSALS--FAMILY POLICIES

Total Premium Per Family Policy	50% of Total Premium from Employer		75% of Total Premium from Employer	
	Level (billions)	% of Original Estimate	Level (billions)	% of Original Estimate
$ 400	$1.24	45	$ 2.80	58
450	1.72	53	3.65	64
500	2.23	60	4.56	69
550	2.76	64	5.52	73
600	3.30	68	6.52	76
650	3.84	71	7.58	79
700	4.45	74	8.68	81
750	5.06	77	9.84	83
800	5.70	79	11.03	84
850	6.35	80	12.27	86
900	7.02	82	13.54	87
950	7.73	83	14.83	88
1000	8.44	85	16.15	89

NOTE: Revision of estimates by Mitchell and Phelps. For method of calculating entries in table, see text.

Finally, I turn to the question of revising the estimated reductions in income tax associated with mandated NHI. For the three prototype plans, the estimated tax revenue losses were $1.2, $2.4, and $5.9 billion, respectively. Since the tax revenue reductions are essentially linearly related to the additions to employer premiums, the same scaling factors can be applied for revised estimates. In 1975, the revised tax revenue reduction estimates would now be $0.84 billion for the low plan, $1.89 billion for the intermediate plan, and $5.12 billion for the high plan.

In a capsule summary, inclusion of the added $4.8 billion in employer premiums known to have arisen by 1975 (in addition to those considered in Mitchell and Phelps's study) diminishes somewhat the adverse effects predicted previously, but they remain large and significant. In general, between two-thirds and seven-eighths of the previously predicted increase in employer premiums and their attendant effects would now be predicted to arise under mandated NHI in 1975.

V. FORECASTS OF MANDATED NHI EFFECTS IN 1980

I now turn to a more difficult, but more interesting, task, namely extrapolating these results to a forecast of 1980 mandated NHI effects. I construct revised tables similar to those established for 1975. However, reading them must be done slightly differently. A plan that was forecast to cost $240 for an individual and $600 for a family in 1975 will be significantly more expensive in 1980. Actual per-capita personal health expenses increased by a factor of 1.4 between 1975 and 1978. Having been caught once by underprediction, I am loathe to do so again; therefore, I am assuming a 15 percent annual rate of increase in such expenses in 1979 and 1980. Even this may be foolhardy--the annual rate of inflation in general during 1979 has approached 12 percent, and medical expenses have exceeded most other expenses in cost increases annually since the passage of Medicare. Nevertheless, this suggests that the "intermediate" plan of our 1975 article, one requiring $240 for individual plans and $600 for family plans, would now require $440 and $1010 respectively, or some 80 percent more than in 1975.

According to my (tentative) estimates, 1980 employer contributions could be as high as $38 billion, or some $23 billion above the levels used in Mitchell and Phelps's tables. (See Table 3 and associated discussion.)

Using that increase, I construct Tables 7 and 8, showing estimates of the newly required premiums for individual and family policies in 1980, taking into account the increased 1980 employer contributions. The lower end of the tables' range is deleted; an upper end increased *through simple extrapolation* to make the tables more useful for 1980 cost levels. I allocate the $23 billion in additional 1980 premiums (above those used in Mitchell and Phelps's report) 20 percent to individual plans, and 80 percent to family plans, as before.

A decision is also required as to how much of the added premiums are to be allowed to reduce employer liability estimates for 1980.

Table 7

ESTIMATED INCREASES IN 1980 EMPLOYER PAYMENTS FOR MANDATED NHI--INDIVIDUAL POLICIES

Total Premium Per Individual Policy	Employer Share Required	
	50% (billions)	75% (billions)
$200	$0.7 ($0.4)	$1.1 ($0.9)
240	0.9 ($0.7)	1.3 ($1.3)
280	1.1	1.7
320	1.2	2.2
360	1.5	2.6
400	1.8	3.1
440	*2.1*	*3.6*
480	*2.4*	*3.6*
520	*2.7*	*4.6*
560	*3.0*	*5.2*
600	*3.3*	*5.8*

NOTE: Italicized entries reflect simple numerical extrapolation of other results in the table in order to extend its range. Two *alternative methods for estimating* some values are employed, with minimum estimates shown in parentheses. See text for details. Revision and extension of estimates by Mitchell and Phelps.

Table 8

ESTIMATED INCREASES IN 1980 EMPLOYER PAYMENTS FOR MANDATED NHI--FAMILY POLICIES

Total Premium Per Family Policy	Employer Share Required	
	50% (billions)	75% (billions)
$ 500	$ 2.1 ($0.1)	$ 3.2 ($2.9)
600	2.6 (1.1)	4.9
700	3.0 (2.3)	7.0
800	3.5 (3.5)	9.3
900	4.9	11.9
1000	6.3	14.5
1100	*7.7*	*17.2*
1200	*9.1*	*20.0*
1400	*10.5*	*23.0*

NOTE: Italicized entries reflect simple numerical extrapolation of other results in the table in order to extend its range. Two alternative methods for estimating some values are employed, with minimum estimates shown in parentheses. See text for details. Revision and extension of estimates by Mitchell and Phelps.

For example, those employers now paying 100 percent of the premium for an employee will have had his payments escalate sharply (by a factor of 1.8 approximately) between 1975 and 1980 simply for increases in medical costs. Using a recent (if scanty) Health Insurance Association of America report that at least 57 percent of the work-group contracts are now paid for 100 percent by employers, the arbitrary decision employed here is to reduce the "allowable increase" fractions for a 50 percent required sharing plan to 15 percent for individual plans, and 20 percent for family plans. (Compare these numbers with 28 percent and 41 percent, respectively, chosen for 1975.) For a plan requiring 75 percent employer payment, the arbitrary choice is to allow 20 percent of the increases on individual plans, and 35 percent for family policies. (Compare with 40 percent and 53 percent for 1975.) The primary source of new employer cost under mandating in 1980 will be provision of insurance to those currently without coverage, rather than upgrading coverage of existing employees. This is particularly true given the significantly higher fraction of premiums now covered by employers, and the large proportion of plans for which the employer pays 100 percent of the premium. The numbers chosen are defensible only in that they are not implausible, and that they allow continuation of the exercise to estimate 1980 mandated NHI effects.

Independently, a lower bound can be established on new added costs. In 1980, there will be over 80 million full-time wage and salary workers, or over 72 million when the self-employed are excluded. The 1970 Center for Health Administration Studies survey showed 47 percent of individual (unmarried) workers, and 81 percent of workers in other types of families to be covered by existing insurance. These can be rounded up to 50 percent and 85 percent for conservatism. Recall that about 20 percent of all wage earners are individuals, and 80 percent of all workers are in other types of families. These data provide reasonable estimates for the minimum new premiums required. For example, with a 50 percent sharing and a $240 individual worker premium, the minimum new amount required is $120 per worker for some 7.2 million workers (72 million total x 20 percent individual units x 50 percent currently uninsured). The

lower bound for such a policy is therefore approximately $0.9 billion in 1980.[1] Tables 7 and 8 show the effective minimum required whenever that minimum exceeds the value that is calculated using the standard methodology employed in construction of these tables (which value is shown in parentheses beside the minimum number entered in the tables). The necessity of this adjustment demonstrates the potential for error associated with the crude extrapolations being undertaken here.

On the other hand, some of the existing policies will have a relatively high fraction of the premium paid by the employer but will not have a sufficient scope of benefits to meet the standards of the more generous mandated plan. In these cases, the 1980 tables (and the revised 1975 tables as well) will overstate the required premium increases. This arises because the fraction of added premiums melded into the tables should rise for the more generous plans. I have not included this factor simply because I had no basis on which to make such an adjustment. Put differently, I have found no reliable data showing the extent to which generosity of coverage has changed in employer group plans during the past decade, and I have no intuitive basis on which to construct an adjustment.

Two examples will be used to demonstrate the use of the 1980 tables. For the first example, I will use the "intermediate" plan discussed earlier, which in 1975 required an employer share of 75 percent, an individual premium of $240, and a family premium of $600. In 1980, such plans would cost $430 and $1100, respectively. (This plan approximated the Nixon administration's Comprehensive Health Insurance Plan.) For the second example, I will use the Carter administration's proposed NHI plan, which is reported to require *initially* a 75 percent employer share and have premium costs in the neighborhood of $630 per worker in 1980.[2] Since family premiums are approximately 2.5 times individual premiums,

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[1] $240 x (.5) x 7.2 million = $0.9 billion.

[2] U.S. Department of Health, Education, and Welfare, *Lead Agency Memorandum on National Health Program*, Washington, D.C., April 3, 1978.

this is akin to a plan requiring $280 individual premium, and $700 family premium. The Carter concept is to phase in NHI to higher levels in later years.

The "intermediate plan," using Tables 7 and 8, would cost about $3.6 billion for the individual component, and $17 billion for the family component, or $20.6 billion. It resembles the final phases of the Carter plans.

The estimated required new premiums for the initial Carter proposal are taken directly from Tables 7 and 8 as $1.7 billion for individuals, and $7.0 billion for families, or a total of $8.7 billion, considerably above the "official" estimates of about $6 billion for the Carter plan in 1980. These estimates accept uncritically the estimated per-worker premium for the Carter plan. If actual costs exceed those envisioned by HEW analysts, then employer premium costs also rise. It is precisely for this reason that I provide Tables 7 and 8. They allow the reader to estimate required new premiums for nearly *any* conceivable mandated plan, with per-worker costs chosen at the discretion of the analyst.

The direct unemployment calculations made for 1975 data cannot be readily derived using the methodology presented here. The most reliable approach would be to translate loosely any proposed 1980 plan into 1975 cost levels and use estimates in the original Mitchell and Phelps report to predict unemployment levels. Since premium contributions were underestimated in the Mitchell and Phelps assumptions, and have increased since then in intervening years to 1980, those predicted unemployment effects must be adjusted towards zero. The proportional adjustments shown in Tables 5 and 6 of this paper provide a useful method of adjustment for the 1975 premium corrections. Roughly doubling the indicated downward percentage adjustment for 1980 is probably appropriate. For example, if Table 5 or Table 6 shows a 15 percent decline in new employer costs relative to Mitchell and Phelps, then 1980 estimates are probably not too far from a 30 percent downward adjustment to the estimated unemployment costs. This must be true because the approximate decline in *real* liability to employers is about the same between 1975 and 1980 as were the adjustments

made herein to modify the original Mitchell and Phelps estimates.

Tax revenue reduction estimates are slightly more complicated. Premium contributions by employers have grown dramatically, as shown, and these have had their associated tax receipt-reducing effects already! Although mandating will not have as large an effect per se, the hidden costs to the government in maintaining the tax deductibility of employer premium payments has already partly increased, even without mandated insurance. Also, general inflation has markedly increased the marginal tax rates of many individuals, thereby increasing the estimated tax revenue reductions from either mandated insurance or continued maintenance of the health insurance exemption from taxation. Simple extrapolation of the tax revenue losses from current (1980) employer contributions (using the data from Table 3) suggest that the 1980 tax expenditure will be at least $12.3 billion, even if there has been no change in marginal tax rates of individuals due to inflation. Inflation-derived increases in marginal tax rates could readily increase this estimate to above $13 billion. Mandated NHI would increase these amounts by from $3 to $7 billion for the prototype plans discussed above.

VI. CONCLUDING REMARKS

The estimates and tables provided herein should be treated only as crude approximations of potential reality. A ten-year-old data base is being used for analysis of phenomena that have undergone substantial change during the decade. Nevertheless, these tables should serve as a useful indicator of the level of new employer costs associated with various health insurance plans. The concomitant effects on employment (in the short run) and on tax receipts can be inferred from these estimates. The pertinent message to ponder is that, even with the substantial increases in premium contributions by employers on behalf of their employees, there remain significant new costs associated with mandating of NHI, and the associated effects of employment and tax receipts will be substantial for many proposed plans. These effects should be taken into account when legislation considering the imposition of mandated national health insurance is debated.

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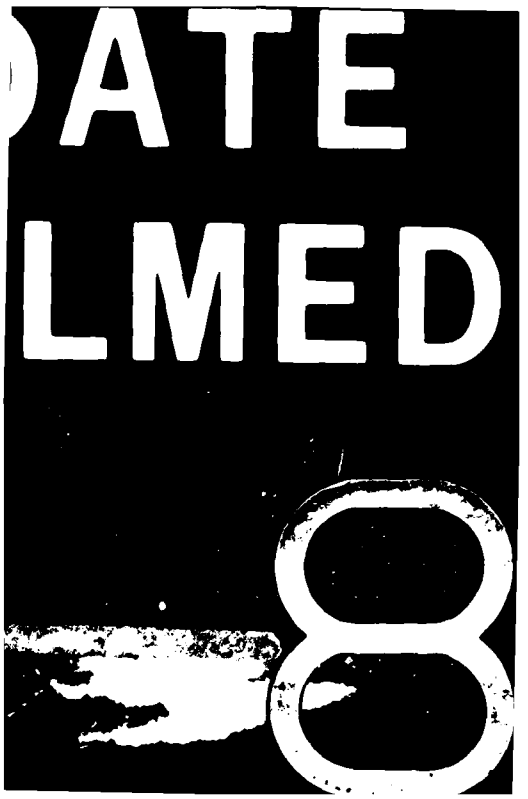
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